

# A Level Physics



Exam Board: AQA

Physics appears in many areas of work, it is a key part of science and technology. It deals with how and why things behave as they do. The applications of physics are apparent in many of the things we see and use at home, at school or at work: computers and body scanners are just some of the recent innovations that have become available to us through physics. Current physics research makes it possible to develop sophisticated products for tomorrow's world.

It is not compulsory for a student studying Physics to also be taking Mathematics. There is no specialist A-level Mathematics content required to take Physics. However, experience shows that students studying A-level Mathematics and Physics together find that the subjects complement each other very well. There is some overlap in subject content and there can be no doubt that studying the subjects together is an advantage.

The new curriculum requires that 40% of all marks awarded at A-level Physics are for the use of higher maths skills and it is therefore important that higher maths has been studied at GCSE.

## Course overview:

- 1 Measurements and their errors
- 2 Particles and radiation
- 3 Waves
- 4 Mechanics and materials
- 5 Electricity
- 6 Further mechanics and thermal physics
- 7 Fields and their consequences
- 8 Nuclear physics

## Assessment:

A-level Course Summary:

Year 12:

- Core content split into five modules.
- No practical examination but practical skills will be examined in the theory papers.
- Six set practical's to be completed in year one.

Year 13:

- Three further modules PLUS an option subject which will be either Astrophysics or Engineering Physics.
- Three examinations of three hours duration, each.
- All papers examine the whole syllabus of eight modules (including those from year one) Paper 1:

Year one plus the further mechanics from year two.

Paper 2: Year two main content plus cross syllabus content from paper 1.

Paper 3: Practical skills. There is no practical examination but practical skills will be examined in the third paper. There are six further set practicals to be completed in year two.



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## Entry requirements:

Grade 6 at least in GCSE Combined Science or Grade 6 or above in GCSE Physics. Grade 6 or above GCSE Mathematics (Higher). Students narrowly missing the requirements will be considered at interview

## Who is the course for?

- Students wishing to pursue higher education in Physics or in other subjects such as courses with a technological and engineering base. Physics and Mathematics are often compulsory A-level selections for entry to a university engineering programme.
- Students who wish to pursue careers where a background in Physics would be an asset. These might include electrical and mechanical engineering, medical services, the civil service, armed forces, teaching and telecommunications. Possibly via a higher apprenticeship route as an alternative to a university programme.
- Students who are taking A-levels in other Sciences and/or Mathematics or other relevant courses such as Design and Technology and want to take Physics to support their studies.

## Career pathways

With physics you can go into many careers including lots of non physics careers such as management or finance. However, relevant careers include anything to do with building or developing new technology including architecture, engineering, astronomy, space exploration, games development and modelling the climate.

*"I love the problem solving and methodical and logical way physics is taught. I really enjoy being able to investigate theories, devise tests and explore new ideas. I can then use my problem-solving skills in other subjects and other parts of my life."*



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